

Please replace the fourth paragraph on Page 9 with the following paragraph:

*A<sup>2</sup>*  
- - The cross section of the chamber 34 is generally the same between the electrodes, i.e., the bottom is substantially planar between the electrodes, and the center of the circles which define the upper portion of the arc tube are coaxial with the electrodes. However, as shown schematically in Figure 11, the radius of the circles gradually decrease from the radius  $R_c$  at the center section of Figure 7A through radii  $R_1$ ,  $R_2$ , etc. to both ends of the chamber 34. This results in a continuing decrease in the cross-sectional area from the center of the chamber to the ends thereof as well as a slight decrease in the horizontal width of the flat bottom from the center of the chamber toward the ends thereof. In one embodiment, the width of the arc tube at the height of the free ends of the electrodes is approximately two thirds of the width of the arc tube at the same height at the center of the arc tube. At the longitudinal center of the arc tube, the ratio of the width of the arc tube to the height of the arc tube may be approximately one. Additionally, the ratio of the maximum vertical height of the chamber to the maximum horizontal width of said chamber may be approximately one. - -

Please replace the second paragraph on Page 11 with the following paragraph:

*X<sup>3</sup>*  
- - A slight v-shape or large radius curve may also be provided along the bottom portion of the chamber from end to end. The object in all embodiments is to provide an essentially flat bottom to the chamber to thereby increase the surface area of the halide pool and thus the vapor pressure of the halides in the arc. This bottom may be curved or v-shaped both longitudinally and/or transversely of the arc tube. Formed body arc tubes provide great manufacturing flexibility and may, e.g., be manufactured in the manner described in the Sulcs et al copending patent application Serial No. 09/470,156 filed December 22, 1999 and entitled "Method of

*3 cont'd*  
Making Optical Coupling Device" assigned to the assignee of the present invention, the disclosure of which is hereby incorporated herein by reference. --

Please replace the second paragraph on Page 13 with the following paragraph:

*X* One of the advantages of the present method of arc tube formation is that the arc tube may be made in symmetrical or asymmetrical shapes which are difficult to produce by pinch sealing of a cylindrical tube. In one embodiment, the ratio of the diameter of the tube to the maximum horizontal width of the tube may be approximately between about seven to ten and about seven to thirty. In preferred embodiments, the bottom of the arc tube is between about 20 and about 80 percent of the length and width of the chamber, preferably between about 50 and about 60 percent of the length. *L*

In the Claims:

*5*  
3. (Amended) A horizontally burning, high intensity discharge lamp having (a) a base, (b) a light transparent outer envelope and (c) an arc tube operatively mounted therein, said base and said arc tube being rotationally fixed relative to each other and said base having means for predetermining the rotational orientation thereof when operatively mounted in a fixture, said arc tube having a pair of space apart electrodes, an upper portion longitudinally conforming generally between said electrodes to the shape of the arc to be drawn therebetween and a canoe-shaped lower portion.

4. (Amended) The lamp of Claim 3 wherein said lower portion has a substantially planar flattened bottom.

5. (Amended) The lamp of Claim 4 wherein said lower portion of said arc tube has an upwardly concave end to end and side to side flattened bottom.